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Name of Applicant,	Mohamed Khaled Mohamed El Hatw ,Cairo ,EGYPT
Title of Invention ,	Detector of living tissue strength & electrical resistance & activity

**Commissure of patents & Trademarks****Washington. D.C. 20231****Dear Brian Szmaj,**

Thank you for your comprehensive and elaborative examination remarks and valuable comments, however I find great and basic differences between this work and the work of other inventors.

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<b>Papa Patent number 4184486</b>	<b>My invention</b>
<b><u>The instrument</u></b> Papa is claiming for a probe of a single function.	<b><u>The instrument</u></b> My probe is measuring three simultaneous functions. a fourth function can be the papa's probe function if I follow his principle and use two electrodes of different materials.
<b><u>The principle</u></b> Papa is describing the use of 2 different electrodes to "generate a current" that can be detected by the monitor; he did not mention the electrical resistance in his invention.	<b><u>The principle</u></b> My invention is much simpler it uses 2 electrodes of the same material and measure the resistance of the intervening tissue to the passage of an exogenous electrical current.
<b><u>The wire</u></b> 1. According to your kind letter page 6 item 15 line 4, papa discloses a first wire inside the	<b><u>The wire</u></b> 1. I am claiming for a wire passing along the probe whether inside or in the wall or at the outer

body of the probe.  2. Papa did not disclose any other way to convey the signal rather than the wire transmitting an electrical signal.	surface of the body of the probe.  2. I have also included any other mean to convey the signal to include light signal, or barometric signal or any future use of the laser beam.
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<b>Urban et al Patent number 5626597</b>	<b>My invention</b>
<b><u>The instrument</u></b> Urban describes a surgical instrument having a cutting function that can be replaced by any diagnostic probe through the same trocar	I describe a diagnostic sensor device (a probe) of three different diagnostic functions that can be replaced by any cutting instrument through the same trocar.
<b><u>The trocar</u></b> Urban describes a specific instrument with a specific trocar	In my invention any trocar can be used –including Urban et al trocar– for the passage of the probe. The biopsy needle with a groove is preferred as the trocar forms with an internal grooved needle a complete biopsy instrument.
<b><u>The probe</u></b> Urban did not specify any specific probe. My probe, papa's probe or any other probe can be used through the trocar of his surgical instrument.	The three-functioned probe is the core of my invention.
<b><u>The monitor</u></b> Urban had not attached any monitor to his surgical instrument so neither the Papa's generated electrical current nor my exogenous current are monitored.	In my invention a system composed of an electrical source, an electrical switch, two electrical current measuring units and an electrical impedance unit with a suitable recording program are referred to.

<p><b><u>The cutting instrument</u></b></p> <p>Urban describes and claims for a very specific cutting instrument that can be replaced by any diagnostic probe.</p>	<p>I did not refer to any specific cutting instrument; Urban's surgical instrument, a grooved needle or any other cutting surgical instrument can be used to replace my probe after its use in the diagnosis of the tissue anatomy &amp; pathology.</p>
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<p><b>Stoianovici et al</b> <b>Patent number 6337994 B1</b></p>	<p><b>In my invention</b></p>
<p><b><u>The probe</u></b></p> <p>The probe has a single function of measuring the electrical impedance.</p>	<p><b><u>The probe</u></b></p> <p>The probe has three functions, measurement of the electrical impedance is one of them.</p>
<p><b><u>The insulator</u></b></p> <p>In claim 3 he disclosed <i>"Electrical insulator comprises a sleeve of insulating material disposed on said stylet, wherein said stylet is selectively slidably removable from said trocar sleeve, and wherein said sleeve of insulating material is removable from said trocar sleeve with said stylet"</i></p>	<p><b><u>The insulator</u></b></p> <p>A transverse electrical insulator separates the tip of the probe to serve as an electrode to measure the impedance of the surrounding target tissues. This will reduce the transverse diameter of the instrument and reduce one step of removing the insulator during the use of the probe.</p>
<p><b><u>The material of the probe</u></b></p> <p>In claim 4 he disclosed <i>"The stylet is formed from an electrically conductive material whereby said means for electrically connecting said second electrically conductive portion to said proximal end portion comprises a main body of the stylet intermediate said proximal end portion and said distal end thereof"</i></p>	<p><b><u>The material of the probe</u></b></p> <p>The probe can be made from an electrically non-conductive material as plastic or PVC as the electrical current is conducted from the tip of the probe to its base through the said third wire and the fourth wire can be conducted directly to the trocar or to any other neutral point.</p>

**The neutral electrode**

In claim 7 he disclosed "*A surgical probe as in claim 1, further comprising a layer of insulating material disposed in surrounding relation to said trocar sleeve, proximal of said first electrode, so as to electrically insulate the trocar sleeve, proximal of said first electrode, from a material into which the probe has been inserted*".

**The neutral electrode**

The trocar sleeve is in direct contact with the surrounding tissues so as the impedance of the target tissue is measured in relation to sum of the impedance of different tissues surrounding the trocar.

In my invention any metal trocar as that of the grooved biopsy needle can serve as a trocar for the probe

## **Listing of claims**

Claim 1 (Currently amended)

Claim 2 (Currently amended)

Claim 3 (Currently amended)